

REMARKS

Claims 1, 3-19, 26, 30-31 and 33 are pending. By this Amendment, claims 2, 14, 20-21, and 32 are cancelled without prejudice or disclaimer, claims 1, 3-13, 15-19, 22-31, and 33 are amended and new claims 34-38 are added. Although claims 22-29 have been withdrawn, Applicant requests reconsideration of the withdrawal based on the amendments to the claims and for reasons further explained hereinbelow.

Applicant thanks the Examiner for the indication of allowable subject matter in claims 8 and 19. In accordance with the suggestion of the Examiner, new claim 36 has been added incorporating the limitations of claim 8 along with all limitations in base claim 1 and intervening claims 5 and 6.

The Claim Rejections Under 35 U.S.C. § 102

Claims 1-6, 9, 13, 15-16, 18, and 32-33 were rejected as anticipated by Brown '726. In response, the claims have been amended to further clarify and define the claimed invention.

Brown '726 relates to a beverage dispenser for mixing carbonated water with syrup. In the Brown '726 device, carbonated water is provided to a vortex chamber having a circular cross-section via a ring chamber, which is identified as reference number 85. Once the water has passed through the vortex chamber, it is supplied via a diffuser opening to a frusto-conical cavity having an increasing volume in a downward direction as depicted in Figure 3. A protruding shoulder is provided in the base of the frusto-conical portion to cause fluid to build up above the shoulder and decrease in velocity as it passes around it.

In contrast to the device of Brown '726, the claimed invention functions to produce a low pressure area at the center of a vortexial flow of beer, thereby causing gas to

separate out from the beer, and enabling a high quality head to be produced on the dispensed product. Applicant respectfully submits that Brown '726 does not refer to or suggest dispensing beer and even if used to dispense beer, would not in any case function to produce a vortexial motion in the mass of beer flowing through the device so as to separate gas as in the claimed invention. Rather, when used for mixing root beer syrup with carbonated water as described, the device of Brown '726 desirably functions to retain as much carbonation in the water as possible prior to dispensing the mixed root beer. See Brown '726, col. 1, ll. 37-41. Since Brown '726 does not teach each and every element of the invention as now claimed, Applicant respectfully requests that these rejections be withdrawn.

The Claim Rejections Under 35 U.S.C. § 103

Claims 26, 30-31 were rejected as obvious over Brown '726 and claims 7, 17 and 10-12 were rejected as obvious over Brown '726 in view of Vantroba '762. Applicant respectfully traverses these rejections in view of the amended claims.

Neither Brown '726 nor Vantroba '762 teaches or suggests producing a vortexial motion in a mass of beer so as to separate gas, as claimed in independent claim 1 from which these claims depend. In fact, Vantroba '762 contains no teaching or suggestion at all of inducing any sort of vortexial flow in a mass of beverage flowing through the device. As a result, these references, either alone or in combination, cannot be considered to render obvious the claimed invention, and applicant respectfully requests that these rejections be withdrawn.

Request for Reconsideration of the Withdrawal of Claims 22-31

Applicant respectfully requests that the Examiner reconsider the withdrawal of claims 22-31, which were previously dependent on claims 20 and 21 drawn to a non-elected species.

Claims 22-31 have been amended so as to be dependent on claims to the elected species. These claims relate to details of materials and geometry that are applicable to the device of the elected species, as supported at least at page 9, line 17, through page 10, line 7 of the application as filed.

New Claims 34-38

New dependent claim 34 is directed to the feature of a vortex breaker including a blade extending diametrically across a downstream portion of the flow chamber. Basis for this new claim is found in the application at least at page 15, lines 24-27, and in Figures 6 and 7 which depict the elected species.

New independent claim 35 includes all features of independent claim 1, along with the feature of dependent claim 3 of the inlet extending substantially as a tangent to the circular cross section of the flow chamber. In addition to being distinguishable from the cited references for the same reasons as set forth above for independent claim 1, Applicant notes that none of the references relied on by the Examiner teach or suggest a beer dispensing apparatus having a tangentially oriented inlet as claimed. Thus, claim 35 is further distinguished over the cited references.

As discussed above, independent claim 36, which incorporates the limitations of claim 8 along with all limitations of the base claim and intervening claims, has been added in accordance with the Examiner's suggestion of allowable subject matter in claim 8.

New independent claim 37 includes all features of independent claim 1 and dependent claim 10. Applicant submits that this claim is further distinguished over the references applied by the Examiner. The Brown '726 device is depicted and described as having a flow chamber diameter that increases in a downward direction. Brown '726 teaches that a diffuser element having a frusto-conical internal cavity is provided to decrease the velocity in the

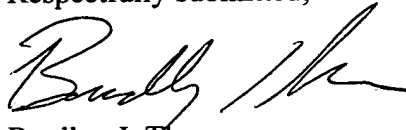
swirl imparted to carbonated water in the vortex chamber. Hence, the diameter of the frusto-conical chamber increases in the downstream flow direction in order to achieve this decrease in velocity. In contrast, new claim 37 recites a decrease in the diameter of the frusto-conical flow chamber in the downstream direction as a means of producing vortexial flow in the mass of beer flowing through the device so as to cause gas to separate within the vortex and a high quality head on the dispensed beer. If the increasing diameter configuration of Brown '726 were applied to the claimed invention, velocity of the beer would decrease in the flow chamber so that no vortex could be formed, and the device would not function as claimed. For these reasons, in addition to those discussed for independent claim 1 hereinabove, Applicant respectfully submits this claim is allowable over the cited references.

New independent claim 38 includes all features of independent claim 1 together with the feature of a vortex breaker including a blade extending diametrically across a downstream portion of the flow chamber as in new dependent claim 34. Applicant submits that the claimed invention is further distinguished from the applied references. No vortex breaker at all is disclosed in Brown '726. As for Vantroba '762, the pressure reducing "wafer" 48 is not structurally similar to the claimed structure and does not function in the same way. In the claimed invention, the diametrically oriented blade enables most of the flow channel to remain open and merely presents a planar surface against which the vortexial flow of beer in the apparatus directly impinges to break the vortex. In contrast, the wafer 48 of Vantroba '762 provides a horizontal surface extending across the entire cross-section of the flow chamber, with apertures to enable passage of fluid. The carbonated water flowing non-vortexially through the device merely accumulates in the area defined by upper wall portion 36, before flowing through the apertures. There is no direct impingement of a vortexial flow as in the claimed invention. For these reasons, in addition to those discussed for independent claim 1 hereinabove, Applicant respectfully submits this claim is allowable over the cited references.

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Bradley J. Thorson', written in a cursive style.

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